

STATIONARY SOURCE PERMIT TO CONSTRUCT AND OPERATE

This permit supersedes your permit dated October 5, 1976.

In compliance with the Federal Clean Air Act and the Commonwealth of Virginia Regulations for the Control and Abatement of Air Pollution,

Stowe Woodward, LLC
8207 Valley Pike
Middletown, Virginia 22645
Registration No.: 80944

is authorized to construct and operate

a roll covering facility

located at

8207 Valley Pike
Middletown, Frederick County

in accordance with the Conditions of this permit.

Approved on

DRAFT

Deputy Regional Director, Valley Region

Permit consists of 10 pages.
Permit Conditions 1 to 25.
Attachment A.

INTRODUCTION

This permit approval is based on the permit applications dated July 15, 1976, August 18, 1992, and August 16, 2006, including amendment information dated September 6, 2006, and October 4, 2006, and supplemental information dated September 15, 2006, October 10, 2006, November 3, 2006, and January 16, 2007. Any changes in the permit application specifications or any existing facilities which alter the impact of the facility on air quality may require a permit. Failure to obtain such a permit prior to construction may result in enforcement action.

Words or terms used in this permit shall have meanings as provided in 9 VAC 5-10-10 of the State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution. The regulatory reference or authority for each condition is listed in parentheses () after each condition.

Annual requirements to fulfill legal obligations to maintain current stationary source emissions data will necessitate a prompt response by the permittee to requests by the DEQ or the Board for information to include, as appropriate: process and production data; changes in control equipment; and operating schedules. Such requests for information from the DEQ will either be in writing or by personal contact.

The availability of information submitted to the DEQ or the Board will be governed by applicable provisions of the Freedom of Information Act, §§ 2.2-3700 through 2.2-3714 of the Code of Virginia, § 10.1-1314 (addressing information provided to the Board) of the Code of Virginia, and 9 VAC 5-170-60 of the State Air Pollution Control Board Regulations. Information provided to federal officials is subject to appropriate federal law and regulations governing confidentiality of such information.

PROCESS REQUIREMENTS

1. **Equipment List** - Equipment at this facility consists of the following:

Equipment to be Constructed and Operated		
Reference No.	Equipment Description (Process)	Installation Date
6	Washroom (Roll Cleaning and Preparation)	1976
7	Blastroom (Roll Surface Blasting for Covering)	1976
9	Vulcanizers 1 and 2 (Rubber Roll Curing)	1976
10	Extruder (Rubber Roll Covering)	1976
17	30 Degree Poly Cast (Polyurethane Roll Covering – Cast)	1976
18	Rubber Mixing Mills (Rubber Roll Covering)	1976
19	Farrel 1 Grinder	1976
20	Safop Lathe	1976
B1	Cleaver Brooks Boiler, 5.23 MMBtu/hr (Process Steam and Space Heat)	1976
B2	Cleaver Brooks Boiler, 5.23 MMBtu/hr (Process Steam and Space Heat)	1976

Equipment to be Operated		
Reference No.	Equipment Description	Installation Date
1	VDF Wrap Unit (Composite Roll Cover Application)	2000
2	Arrow Wrap Unit (Composite Roll Cover Application)	1992
3	Poreba Lathe (Metal Fabrication and Roll Repair)	2006
4	Voith Grinder (Roll Finishing)	1992
5	Balance Machine (Roll Dynamic Balance)	1991
8	Nobel & Lund Lathe (Roll Covering Stripping and Skimming)	2001
11	Farrel 2 Grinder (Roll Finishing)	2004
12	Safop Drill #2 (Roll Finishing)	2005
13	Safop Drill #1 (Roll Finishing)	1985
14	Craven Lathe (Roll Finishing)	1980
15	Roto Poly Cast Machine (Polyurethane Roll Covering – Cast)	2006
16	90 Degree Poly Cast (Polyurethane Roll Covering – Cast)	1986
OV1	Dry Curing Oven, 2.4 MMBtu/hr	1984
OV2	Dry Curing Oven, 2.4 MMBtu/hr	1990
MW1	40 gallon Batch Degreaser	--
MW2	40 gallon Batch Degreaser	--

Specifications included in the permit under this Condition are for informational purposes only and do not form enforceable terms or conditions of the permit.

(9 VAC 80-880 and 9 VAC 5-80-1180 D 3)

2. **Emission Controls** – Particulate emissions from the blastroom operations (Ref. 7) and the grinders (Ref. 4, 11 and 19) shall be controlled by fabric filters. The fabric filters shall be provided with adequate access for inspection and shall be in operation when the blastroom or either grinder is operating.
 (9 VAC 5-80-880 and 9 VAC 5-50-260)
3. **Fugitive Emission Controls** – Fugitive emission controls shall include the following, or equivalent, as approved by DEQ: Installation and use of hoods, fans and fabric filters to enclose and vent the handling of dusty materials. Adequate containment methods shall be employed during sandblasting or other similar operations.
 (9 VAC 5-50-90 and 9 VAC 5- 80-880)
4. **VOC Work Practice Standards** – At all times the disposal of volatile organic compounds shall be accomplished by taking measures, to the extent practicable, consistent with air pollution control practices for minimizing emissions. Volatile organic compounds shall not be intentionally spilled, discarded in sewers which are not connected to a treatment plant, or stored in open containers, or handled in any other manner that would result in evaporation beyond that consistent with air pollution practices for minimizing emissions.
 (9 VAC 5-50-20 F and 9 VAC 5-80-880)
5. **Monitoring Devices** – Each fabric filter for the blastroom operations (Ref. 7) and grinders (Ref. 4, 11 and 19) shall be equipped with a device to continuously measure the pressure drop across the fabric filter. Each monitoring device shall be installed, maintained, calibrated and operated in

accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations. Each monitoring device shall be provided with adequate access for inspection and shall be in operation when the fabric filters are operating.
(9 VAC 5-80-880)

6. **Monitoring Device Observation** – To ensure good performance, the monitoring device used to continuously measure the pressure drop across each fabric filter for the blastroom operations (Ref. 7) and grinders (Ref. 4, 11 and 19) shall be observed by the permittee with a frequency of not less than once per week. The permittee shall keep a log of the observations from the fabric filters.
(9 VAC 5-80-880)
7. **Emission Testing** - The facility shall be constructed so as to allow for emissions testing upon reasonable notice at any time, using appropriate methods. Sampling ports shall be provided when requested at the appropriate locations and safe sampling platforms and access shall be provided.
(9 VAC 5-80-880 and 9 VAC 5-80-850)

OPERATING LIMITATIONS

8. **Fuel** - The approved fuel for the boilers (Ref. B1 and B2) and dry curing ovens (OV1 and OV2) is natural gas. A change in the fuel may require a permit to modify and operate.
(9 VAC 5-80-880)

EMISSION LIMITS

9. **Process Emission Limits** - Emissions from the boilers (B1 and B2) shall not exceed the limits specified below:

Nitrogen Oxides (as NO ₂)	1.01 lbs/hr	4.43 tons/yr
Carbon Monoxide	0.85 lbs/hr	3.72 tons/yr

Compliance with these emission limits may be determined as stated in Conditions 8 and 15.
(9 VAC 5-80-880)

10. **Process Emission Limits** - Emissions from the dry curing ovens (OV1 and OV2) shall not exceed the limits specified below:

Nitrogen Oxides (as NO ₂)	0.46 lbs/hr	2.03 tons/yr
Carbon Monoxide	0.39 lbs/hr	1.71 tons/yr

Compliance with these emission limits may be determined as stated in Conditions 8 and 15.
(9 VAC 5-80-880)

11. **Process Emission Limits** - Emissions from the roll covering operations shall not exceed the limits specified below:

Volatile Organic Compounds 13.32 tons/yr

Compliance with the emission limit may be determined as stated in Condition 15.
(9 VAC 5-80-880)

12. **Emission Limits: Hazardous Air Pollutants** - Hazardous air pollutant (HAP) emissions, as defined by §112(b) of the Clean Air Act, from the facility shall not exceed 9.0 tons per year of any individual HAP or 24.0 tons per year of any combination, calculated monthly as the sum of each consecutive 12-month period. HAPs which are not accompanied by a specific CAS number (as listed in Attachment A) shall be calculated as the sum of all compounds containing the named chemical when determining compliance with the individual HAP emissions limitation of 9.0 tons per year.
(9 VAC 5-80-850)
13. **Visible Emission Limit** - Visible emissions from the blastroom operations (Ref. 7) and the grinders (Ref. 4, 11 and 19) shall not exceed 5.0 percent opacity as determined by the EPA Method 9 (reference 40 CFR 60, Appendix A)
(9 VAC 5-80-880)

CONTINUING COMPLIANCE DETERMINATION

14. **Visible Emissions Evaluation** - Upon request by the DEQ, the permittee shall conduct additional visible emission evaluations to demonstrate compliance with the visible emission limits contained in this permit. The details of the tests shall be arranged with the Director, Valley Region.
(9 VAC 5-50-30 G)

RECORDS

15. **On Site Records** - The permittee shall maintain records of emission data and operating parameters as necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Director, Valley Region. These records shall include, but are not limited to:
- a. Monthly and annual throughput of natural gas for the boilers (B1 and B2) and for the dry curing ovens (OV1 and OV2), calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
 - b. Monthly and annual VOC throughput (in pounds or tons) to roll covering operations (including degreasing) at the facility, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the

total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

- c. Monthly and annual throughput (in pounds or tons) of each material containing HAPs used at the facility (to include roll covering operations and degreasing), calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
- d. Monthly and annual throughput (in pounds or tons) of aluminum zirconia used in the blastroom operations (Ref. 7), calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
- e. Monthly and annual production (in pounds or tons) of rubber, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
- f. Monthly and annual emissions (in tons) to verify compliance with the VOC emission limitation in Condition 11. Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
- g. Monthly and annual emissions (in tons) from the facility (to include roll covering operations, degreasing, and combustion in boilers and curing ovens) to verify compliance with the individual and total HAP emission limitations in Condition 12. Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period, using a calculation method approved by the Director, Valley Region. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
- h. Material Safety Data Sheets (MSDS), Certified Product Data Sheets (CPDS) or other vendor information showing VOC and HAP content for each material containing VOCs and/or HAPs used at the facility.
- i. Operation and control device monitoring records for the fabric filters as required in Condition 6.
- j. Results of all visible emissions evaluations.

These records shall be available for inspection by the DEQ and shall be current for the most recent five years.

(9 VAC 5-80-900 and 9 VAC 5-50-50)

GENERAL CONDITIONS

16. **Right of Entry** - The permittee shall allow authorized local, state, and federal representatives, upon the presentation of credentials:

- a. To enter upon the permittee's premises on which the facility is located or in which any records are required to be kept under the terms and conditions of this permit;
- b. To have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit or the State Air Pollution Control Board Regulations;
- c. To inspect at reasonable times any facility, equipment, or process subject to the terms and conditions of this permit or the State Air Pollution Control Board Regulations; and
- d. To sample or test at reasonable times.

For purposes of this condition, the time for inspection shall be deemed reasonable during regular business hours or whenever the facility is in operation. Nothing contained herein shall make an inspection time unreasonable during an emergency.

(9 VAC 5-170-130, 9 VAC 5-80-850 and 9 VAC 5-80-1180)

17. **Record of Malfunctions** - The permittee shall maintain records of the occurrence and duration of any bypass, malfunction, shutdown or failure of the facility or its associated air pollution control equipment that results in excess emissions for more than one hour. Records shall include the date, time, duration, description (emission unit, pollutant affected, cause), corrective action, preventive measures taken and name of person generating the record.

(9VAC 5-20-180 J and 9 VAC 5-80-1180 D)

18. **Notification for Facility or Control Equipment Malfunction** - The permittee shall furnish notification to the Director, Valley Region of malfunctions of the affected facility or related air pollution control equipment that may cause excess emissions for more than one hour, by facsimile transmission, telephone, or telegraph. Such notification shall be made as soon as practicable but no later than four daytime business hours after the malfunction is discovered. The permittee shall provide a written statement giving all pertinent facts, including the estimated duration of the breakdown, within two weeks of discovery of the malfunction. When the condition causing the failure or malfunction has been corrected and the equipment is again in operation, the permittee shall notify the Director, Valley Region in writing.

(9 VAC 5-20-180 C, 9 VAC 5-80-850 and 9 VAC 5-80-1180)

19. **Violation of Ambient Air Quality Standard** - The permittee shall, upon request of the DEQ, reduce the level of operation or shut down a facility, as necessary to avoid violating any primary ambient air quality standard and shall not return to normal operation until such time as the ambient air quality standard will not be violated.

(9 VAC 5-20-180 I, 9 VAC 5-80-850 and 9 VAC 5-80-1180)

- 20. Maintenance/Operating Procedures** – At all times, including periods of start-up, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate the affected source, including associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions.

The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions, with respect to air pollution control equipment and process equipment which affect such emissions:

- a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance.
- b. Maintain an inventory of spare parts.
- c. Have available written operating procedures for equipment. These procedures shall be based on the manufacturer's recommendations, at a minimum.
- d. Train operators in the proper operation of all such equipment and familiarize the operators with the written operating procedures, prior to their first operation of such equipment. The permittee shall maintain records of the training provided including the names of trainees, the date of training and the nature of the training.

Records of maintenance and training shall be maintained on site for a period of five years and shall be made available to DEQ personnel upon request.

(9 VAC 5-50-20 E, 9 VAC 5-80-850 and 9 VAC 5-80-1180 D)

- 21. Permit Suspension/Revocation** - This permit may be revoked if the permittee:

- a. Knowingly makes material misstatements in the permit application or any amendments to it;
- b. Fails to comply with the terms or conditions of this permit;
- c. Fails to comply with any emission standards applicable to a permitted emissions unit;
- d. Causes emissions from this facility which result in violations of, or interferes with the attainment and maintenance of, any ambient air quality standard;
- e. Fails to operate this facility in conformance with any applicable control strategy, including any emission standards or emission limitations, in the State Implementation Plan in effect at the time that an application for this permit is submitted;
- f. Fails to comply with the applicable provisions of Articles 6, 8 and 9 of 9 VAC 5 Chapter 80.

(9 VAC 5-80-1010 and 9 VAC 5-80-1210 F)

22. **Change of Ownership** - In the case of a transfer of ownership of a stationary source, the new owner shall abide by any current permit issued to the previous owner. The new owner shall notify the Director, Valley Region of the change of ownership within 30 days of the transfer.
(9 VAC 5-80-940 and 9 VAC 5-80-1240)
23. **Permit Copy** - The permittee shall keep a copy of this permit on the premises of the facility to which it applies.
(9 VAC 5-80-860 D and 9 VAC 5-80-1180)

STATE-ONLY ENFORCEABLE REQUIREMENTS

24. **Process Emission Limits** - Emissions from the roll covering operations (including degreasing, boilers, and curing ovens) shall not exceed the limits specified below:

	CAS Number	lbs/hr	tons/yr
1,3 Butadiene	106-99-0	1.452	3.19
2,4-Toluene Diisocyanate	584-84-9	0.00462	0.00522
4,4'-Methylene Bis	101-14-4	0.01452	0.0319
Acrylonitrile	107-13-1	0.2838	0.6235
Aniline	62-53-3	0.5016	1.102
Bis(2-ethylhexyl) Phthalate	117-81-7	0.033	0.725
Carbon Tetrachloride	56-23-5	2.046	4.495
Chloroform	67-66-3	3.234	7.105
Dibutyl Phthalate	84-74-2	0.33	0.725
Ethylbenzene	100-41-4	17.919	9.0
Formaldehyde	50-00-0	0.0825	0.174
Lead Monoxide	--	0.0099	0.02175
Methanol	67-56-1	10.824	9.0
Methyl Ethyl Ketone	78-93-3	22.8	9.0
Methyl Isobutyl Ketone	108-10-1	10.131	9.0
Phenol	108-95-2	1.254	2.755
Tetrachloroethylene	127-18-4	22.80	9.0
Toluene	108-88-3	18.645	9.0
Xylene	1330-20-7	21.483	9.0

Hourly and annual emissions shall be calculated using a method approved by the Director, Valley Region. Compliance with these emission limits may be determined as stated in Condition 25.
(9 VAC 5-80-880)

25. **On Site Records** - The permittee shall maintain records of emission data and operating parameters as necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Director, Valley Region. These records shall include, but are not limited to:

- a. Monthly and annual throughput (in pounds) of each material containing toxic compounds used at the facility, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
- b. Monthly hours of operation for the roll covering process, the boilers, and the curing ovens.
- c. Hourly, monthly and annual emissions (in tons) to verify compliance with each toxic compound emission limitations in Condition 24. Hourly emissions shall be calculated monthly as a monthly average (monthly emissions divided by hours of operation for the month). Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

These records shall be available for inspection by the DEQ and shall be current for the most recent five years.

(9 VAC 5-80-900 and 9 VAC 5-50-50)

ATTACHMENT A – HAZARDOUS AIR POLLUTANT LIST

Note 1: Emissions for pollutant listings which do not have a specific CAS number must be totaled when determining major source applicability under Title V and for HAP regulations (i.e. 112(g) & (d)).

<u>CAS#</u>	<u>NAME</u>
see Note 1	ANTIMONY COMPOUNDS ¹
see Note 1	ARSENIC COMPOUNDS
see Note 1	BERYLLIUM COMPOUNDS
see Note 1	CADMIUM COMPOUNDS
see Note 1	CHROMIUM COMPOUNDS
see Note 1	COBALT COMPOUNDS
see Note 1	COKE OVEN EMISSIONS
see Note 1	CYANIDE COMPOUNDS ²
see Note 1	GLYCOL ETHERS ³
see Note 1	LEAD COMPOUNDS
see Note 1	MANGANESE COMPOUNDS
see Note 1	MERCURY COMPOUNDS
see Note 1	NICKEL COMPOUNDS
see Note 1	POLYCYCLIC ORGANIC MATTER/POM ⁴
see Note 1	SELENIUM COMPOUNDS

<u>CAS#</u>	<u>NAME</u>
50 00 0	FORMALDEHYDE
51 28 5	2,4-DINITROPHENOL
51 79 6	ETHYL CARBAMATE/URETHANE
53 96 3	2-ACETYLAMINOFLUORENE
56 23 5	CARBON TETRACHLORIDE
56 38 2	PARATHION
57 14 7	1,1-DIMETHYLHYDRAZINE
57 57 8	BETA-PROPIOLACTONE
57 74 9	CHLORDANE
58 89 9	LINDANE (AND ALL OTHER STEREOISOMERS OF 1,2,3,4,5,6- HEXACHLOROCYCLOHEXANE)
59 89 2	N-NITROSOMORPHOLINE/NMOR
60 11 7	DIMETHYL AMINOAZOBENZENE/ 4-DIMETHYLAMINOAZOBENZENE
60 34 4	METHYL HYDRAZINE
60 35 5	ACETAMIDE
62 53 3	ANILINE & HOMOLOGUES
62 73 7	DICHLORVOS
62 75 9	N-NITROSODIMETHYLAMINE/NDMA
63 25 2	CARBARYL
64 67 5	DIETHYL SULFATE

67	56	1	METHANOL
67	66	3	CHLOROFORM
67	72	1	HEXACHLOROETHANE
68	12	2	DIMETHYLFORMAMIDE/N,N-DIMETHYLFORMAMIDE
71	43	2	BENZENE (INCLUDING BENZENE FROM GASOLINE)
71	55	6	METHYL CHLOROFORM/1,1,1-TRICHLOROETHANE
72	43	5	METHOXYCHLOR
72	55	9	2,2-BIS(P-CHLORPHENYL)-1,1-DICHLOROETHYLENE/DDE
74	83	9	METHYL BROMIDE/BROMOMETHANE
74	87	3	METHYL CHLORIDE/CHLOROMETHANE
74	88	4	METHYL IODIDE/IODOMETHANE
75	00	3	ETHYL CHLORIDE/CHLOROETHANE
75	01	4	VINYL CHLORIDE/CHLOROETHYLENE
75	05	8	ACETONITRILE
75	07	0	ACETALDEHYDE
75	09	2	METHYLENE CHLORIDE/DICHLOROMETHANE
75	15	0	CARBON DISULFIDE
75	21	8	ETHYLENE OXIDE
75	25	2	BROMOFORM
75	34	3	1,1-DICHLOROETHANE/ETHYLIDENE DICHLORIDE
75	35	4	VINYLDENE CHLORIDE/1,1-DICHLOROETHYLENE
75	44	5	PHOSGENE/CARBONYLCHLORIDE
75	55	8	1,2-PROPYLENE IMINE
75	56	9	PROPYLENE OXIDE/1,2-EPOXYPROPANE
76	44	8	HEPTACHLOR
77	47	4	HEXACHLOROCYCLOPENTADIENE
77	78	1	DIMETHYL SULFATE
78	59	1	ISOPHORONE
78	87	5	PROPYLENE DICHLORIDE/1,2-DICHLOROPROPANE
78	93	3	METHYL ETHYL KETONE/MEK/2-BUTANONE
79	00	5	1,1,2-TRICHLOROETHANE
79	01	6	TRICHLOROETHYLENE
79	06	1	ACRYLAMIDE
79	10	7	ACRYLIC ACID
79	11	8	CHLORACETIC ACID
79	34	5	1,1,2,2-TETRACHLOROETHANE
79	44	7	DIMETHYL CARBAMOYL CHLORIDE
79	46	9	2-NITROPROPANE
80	62	6	METHYL METHACRYLATE
82	68	8	PENTACHLORONITROBENZENE/QUINTOBENZENE
84	74	2	DIBUTYL PHTHALATE
85	44	9	PHTHALIC ANHYDRIDE
87	68	3	HEXACHLOROBUTADIENE
87	86	5	PENTACHLOROPHENOL
88	06	2	2,4,6-TRICHLOROPHENYL

90	04 0	O-ANISIDINE
91	20 3	NAPHTHALENE
91	22 5	QUINOLINE
91	94 1	3,3'-DICHLOROBENZIDENE
92	52 4	BIPHENYL
92	67 1	4-AMINODIPHENYL
92	87 5	BENZIDINE
92	93 3	4-NITRODIPHENYL
94	75 7	2,4-D, (DICHLOROPHENOXY/ACETIC ACID) (INCLUDING SALTS AND ESTERS)
95	95 4	2,4,5-TRICHLOROPHENOL
95	47 6	O-XYLENE
95	48 7	O-CRESOL
95	53 4	O-TOLUIDINE
95	80 7	2,4-TOLUENE DIAMINE/TOLUENE-2,4-DIAMINE
96	09 3	STYRENE OXIDE
96	12 8	1,2-DIBROMO-3-CHLOROPROPANE
96	45 7	ETHYLENE THIOUREA/ETU
98	07 7	BENZOTRICHLORIDE
98	82 8	CUMENE
98	86 2	ACETOPHENONE
98	95 3	NITROBENZENE
100	02 7	4-NITROPHENOL
100	41 4	ETHYL BENZENE
100	42 5	STYRENE, MONOMER/VINYL BENZENE
100	44 7	BENZYL CHLORIDE
101	14 4	4,4-METHYLENE BIS(2-CHLOROANILINE)
101	68 8	4,4'-METHYLENEDIPHENYL DIISOCYANATE/MDI
101	77 9	4,4-METHYLENE DIANILINE
106	42 3	P-XYLENE
106	44 5	P-CRESOL
106	46 7	1,4-DICHLOROBENZENE
106	50 3	P-PHENYLENEDIAMINE
106	51 4	QUINONE
106	88 7	1,2-EPOXYBUTANE
106	89 8	EPICHLOROHYDRIN
106	93 4	ETHYLENE DIBROMIDE/EDB/1,2-DIBROMOETHANE
106	99 0	1,3-BUTADIENE
107	02 8	ACROLEIN
107	05 1	ALLYL CHLORIDE
107	06 2	1,2-DICHLOROETHANE/ETHYLENE DICHLORIDE
107	13 1	ACRYLONITRILE
107	21 1	ETHYLENE GLYCOL
107	30 2	CHLOROMETHYL METHYL ETHER/CMME
108	90 7	CHLOROBENZENE

108	05	4	VINYL ACETATE
108	10	1	METHYL ISOBUTYL KETONE/HEXONE
108	31	6	MALEIC ANHYDRIDE
108	38	3	M-XYLENE
108	39	4	M-CRESOL
108	88	3	TOLUENE
108	95	2	PHENOL
110	54	3	HEXANE
111	42	2	DIETHANOLAMINE
111	44	4	DICHLOROETHYL ETHER/BIS(2-CHLOROETHYL)ETHER
114	26	1	PROPOXUR/BAYGON
117	81	7	DI-SEC-OCTYL PHTHALATE/BIS(2-ETHYLHEXYL)PHTHALATE
118	74	1	HEXACHLOROBENZENE
119	90	4	3,3-DIMETHOXYBENZIDINE
119	93	7	3,3-DIMETHYLBENZIDINE
120	80	9	CATECHOL
120	82	1	1,2,4-TRICHLOROBENZENE
121	14	2	2,4-DINITROTOLUENE
121	44	8	TRIETHYLAMINE
121	69	7	DIMETHYLANILINE
122	66	7	1,2-DIPHENYLHYDRAZINE
123	31	9	HYDROQUINONE/DIHYDROXYBENZENE
123	38	6	PROPIONALDEHYDE
123	91	1	1,4-DIOXANE/1,4-DIETHYLENEOXIDE
126	99	8	2-CHLORO-1,3-BUTADIENE/BETA-CHLOROPRENE
127	18	4	TETRACHLOROETHYLENE/PERCHLOROETHYLENE
131	11	3	DIMETHYL PHTHALATE
132	64	9	DIBENZOFURANS
133	06	2	CAPTAN
133	90	4	CHLORAMBEN
140	88	5	ETHYL ACRYLATE
151	56	4	ETHYLENIMINE
156	62	7	CALCIUM CYANAMIDE
302	01	2	HYDRAZINE
334	88	3	DIAZOMETHANE
463	58	1	CARBONYL SULFIDE
510	15	6	CHLOROBENZILATE
532	27	4	2-CHLOROACETOPHENONE
534	52	1	4,6-DINITRO-O-CRESOL (INCLUDING SALTS)
540	84	1	2,2,4-TRIMETHYLPENTANE
542	07	6	1,3-DICHLOROPROPENE
542	88	1	BIS-(CHLOROMETHYL) ETHER
584	84	9	TOLUENE-2,4-DIISOCYANATE/TDI
593	60	2	VINYL BROMIDE

624	83	9	METHYL ISOCYANATE
680	31	9	HEXAMETHYL PHOSPHORAMIDE/HMPA
684	93	5	N-NITROSO-N-METHYLUREA/NMU
822	06	0	HEXAMETHYLENE DIISOCYANATE
1120	71	4	1,3-PROPANE SULTONE
1319	77	3	CRESOLS/CRESYLIC ACID
1330	20	7	XYLENE ISOMERS AND MIXTURES
1336	36	3	POLYCHLORINATED BIPHENYLS/AROCHLORS
1582	09	8	TRIFLURALIN
1634	04	4	METHYL TERT BUTYL ETHER
1746	01	6	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN
7550	45	0	TITANIUM TETRACHLORIDE
7647	01	0	HYDROGEN CHLORIDE/HYDROCHLORIC ACID (GAS ONLY)
7664	39	3	HYDROGEN FLUORIDE/HYDROFLUORIC ACID
7723	14	0	PHOSPHOROUS
7782	50	5	CHLORINE
7803	51	2	PHOSPHINE
8001	35	2	TOXAPHENE/CHLORINATED CAMPHENE

The following pollutants and pollutant source categories are listed as HAPs under section 112(b) but are excluded from the definitions of toxics in the Virginia Regulations:

1. Asbestos NESHAP, 40 CFR 61 Subpart M (for asbestos removal, demolition and installation contact Virginia Department of Labor – 804/786-8009).
2. Fine Mineral Fibers.
3. Radionuclides (including radon).

¹ For all listings above which contain the word "compounds" and for glycol ethers, the following applies: Unless otherwise specified, these listings are defined as including any unique chemical substance that contains the named chemical as part of that chemical's infrastructure.

² X'CN where X=H' or any other group where a formal dissociation may occur. For example, KCN or Ca(CN)₂.

³ Glycol ethers include mono- and di-ethers of ethylene glycol, diethylene glycol, and triethylene glycol R-(OCH₂CH₂)_n-OR'

where: n = 1, 2, or 3

R = alkyl C7 or less, or phenyl or alkyl substituted phenyl

R' = H, or alkyl C7 or less, or carboxylic acid ester, sulfate, phosphate, nitrate, or sulfonate

⁴ Includes substituted and/or unsubstituted polycyclic aromatic hydrocarbons and aromatic heterocycle compounds, with two or more fused rings, at least one of which is benzenoid in structure. Polycyclic Organic Matter is a mixture of organic compounds containing one or more of these

polycyclic aromatic chemicals which include dioxins and furans. Polycyclic Organic Matter is generally formed or emitted during thermal processes including (1) incomplete combustion, (2) pyrolysis, (3) the volatilization, distillation or processing of fossil fuels or bitumens, or (4) the distillation or thermal processing of non-fossil fuels.

